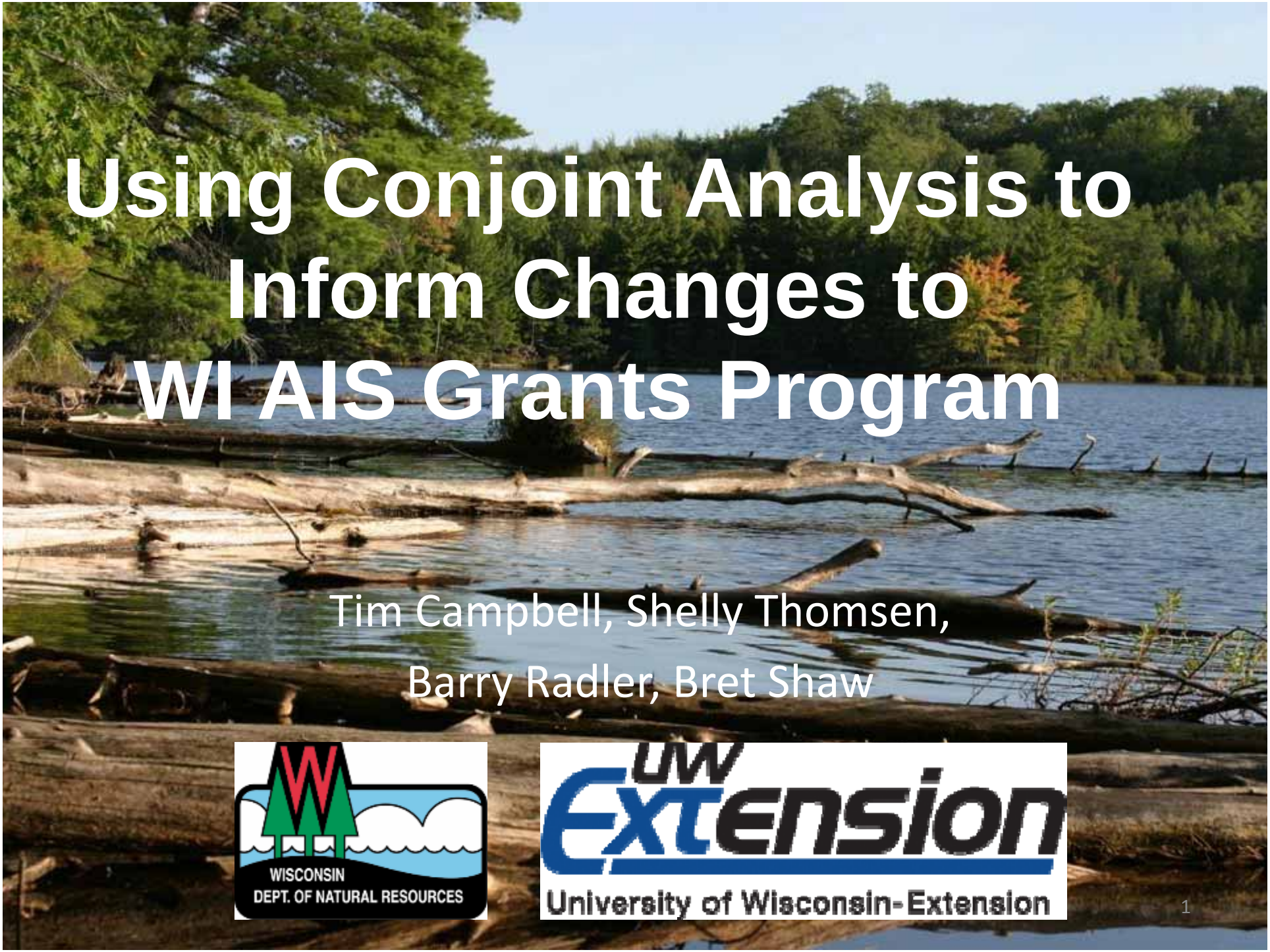

Using Conjoint Analysis to Inform Changes to WI AIS Grants Program

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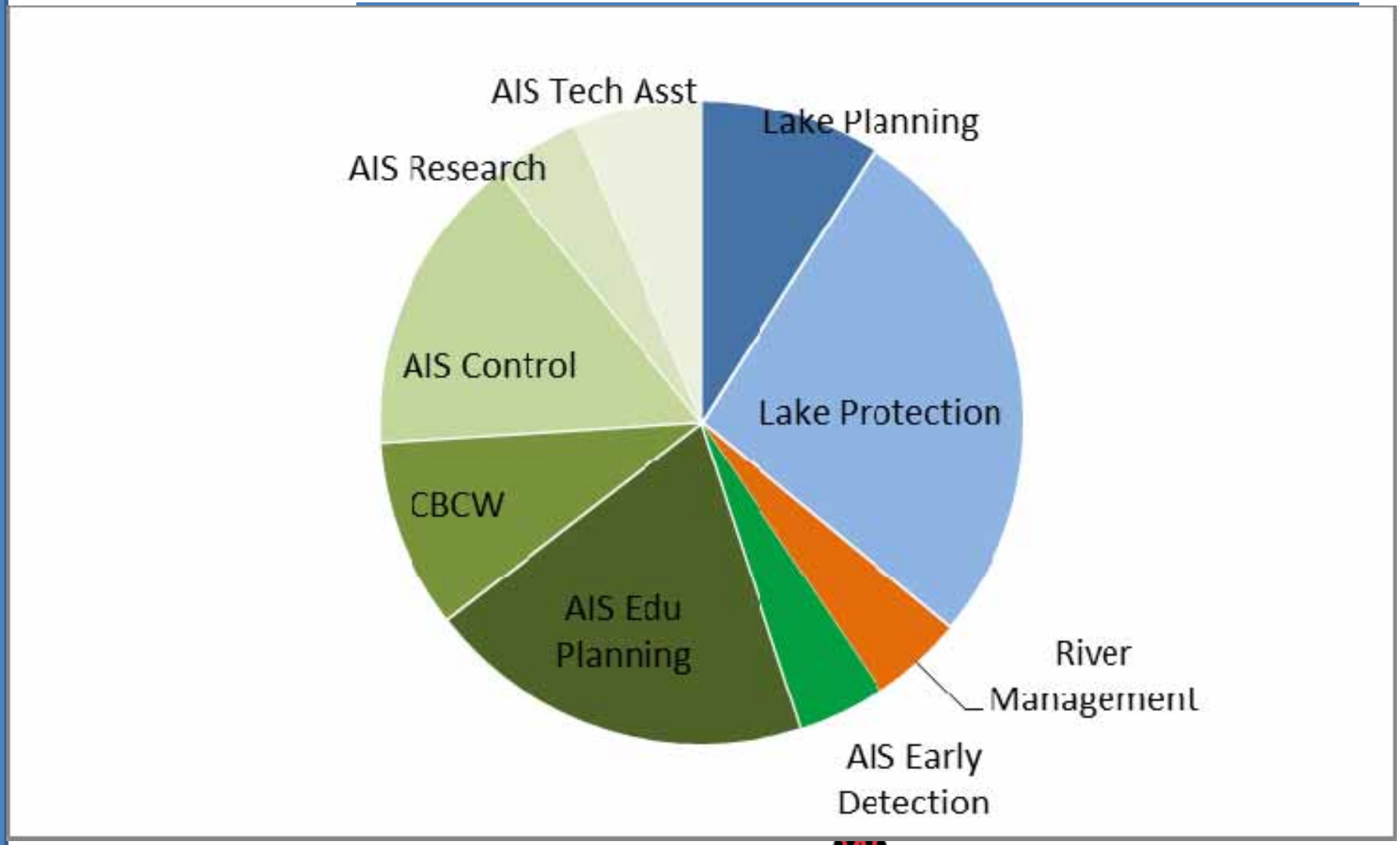
Barry Radler, Bret Shaw

WISCONSIN DEPT. OF NATURAL RESOURCES

UW Extension
University of Wisconsin-Extension

WI Grants - $6.5 mill



Improve AIS program

- What do **stakeholders** and **managers** value in an AIS management program?
- AIS management program:
  - prevention activities
  - monitoring activities
  - control activities
  - outreach activities

We could ask…

- On a scale from 1-5, how important is it that you have CBCW staff at your boat launch every weekend?
- How important is it to have a professional monitor your lake for AIS?

- Issues
  - Straightlining
  - Lack of differentiation between variables
  - Difficulty in comparisons
  - What people say and what people do aren't always the same

What is conjoint?

- **Conjoint Analysis-** Statistical technique used in market research to determine how people value different attributes

- Conjoint analysis requires participants to make a series of trade-offs. Analysis of these trade-offs reveal relative importance of attributes.
  - Example – Golf Balls & Power Company

How we did this for AIS?

- Local AIS Contact
  - No local contact
  - Limited local contact
  - Involved local contact
- Monitoring
  - No monitoring
  - Citizens
  - Professionals
- Control
  - No control
  - Response control
  - Management plan control
  - Every year
- Boat inspections
  - No inspections
  - Weekends
  - Everyday

Added a validation question – “Would you actually implement your chosen program?”

Sample

Stakeholder Groups that Received Survey
DNR Water Staff
DNR Fisheries Staff
Wisconsin AIS Partnership Email List
Wisconsin Lakes Membership (citizens)
Grant Sponsors (2011-2015)
Wisconsin Lakes Partnership Conference Attendees
Clean Boats Clean Waters Volunteers
Citizen Lake Monitoring Volunteers
UWEX Lake Tides Subscribers

~3,000 recipients, 750 respondents

Survey Information

- N>750
- Sensitivity analysis to remove 100 least reliable respondents
- Two fixed tasks

Conjoint Task

Which AIS management program do you believe would be better for Wisconsin?

	Program A	Program B	Program C
Control	AIS removal upon discovery	AIS removal only when abundance exceeds predetermined levels	No AIS removal efforts
Local Contact	Local contact available to answer AIS questions	Local contact available to answer AIS questions, educate citizens, and perform field work	No local contact available
AIS Lake and River Monitoring	Trained citizens documenting presence or absence of AIS	Trained professionals assessing presence or absence of AIS	No AIS monitoring
AIS Boat Inspections	AIS boat inspections every day	No AIS boat inspections	No AIS boat inspections
	○	○	○

Given limited state resources, would the program you just chose be acceptable to implement on your home lake or river?

○ Yes
○ No

Fixed Task

Which AIS management program do you believe would be better for Wisconsin?

	Program A	Program B	Program C
Control	AIS removal upon discovery	No AIS removal efforts	AIS removal upon discovery
Local Contact	Local contact available to answer AIS questions	No local contact available	No local contact available
AIS Lake and River Monitoring	Trained professionals assessing presence or absence of AIS	Trained citizens documenting presence or absence of AIS	No AIS monitoring
AIS Boat Inspections	AIS boat inspections every day	AIS boat inspections on the weekend	No AIS boat inspections
	○	○	○

Given limited state resources, would the program you just chose be acceptable to implement on your home lake or river?

- ○ Yes
- ○ No

Top Plan

- Control in response to a new finding
- CBCW on the weekend
- Citizen monitoring
- Engaged local contact

- But that's not the whole story!

Average Utility Values

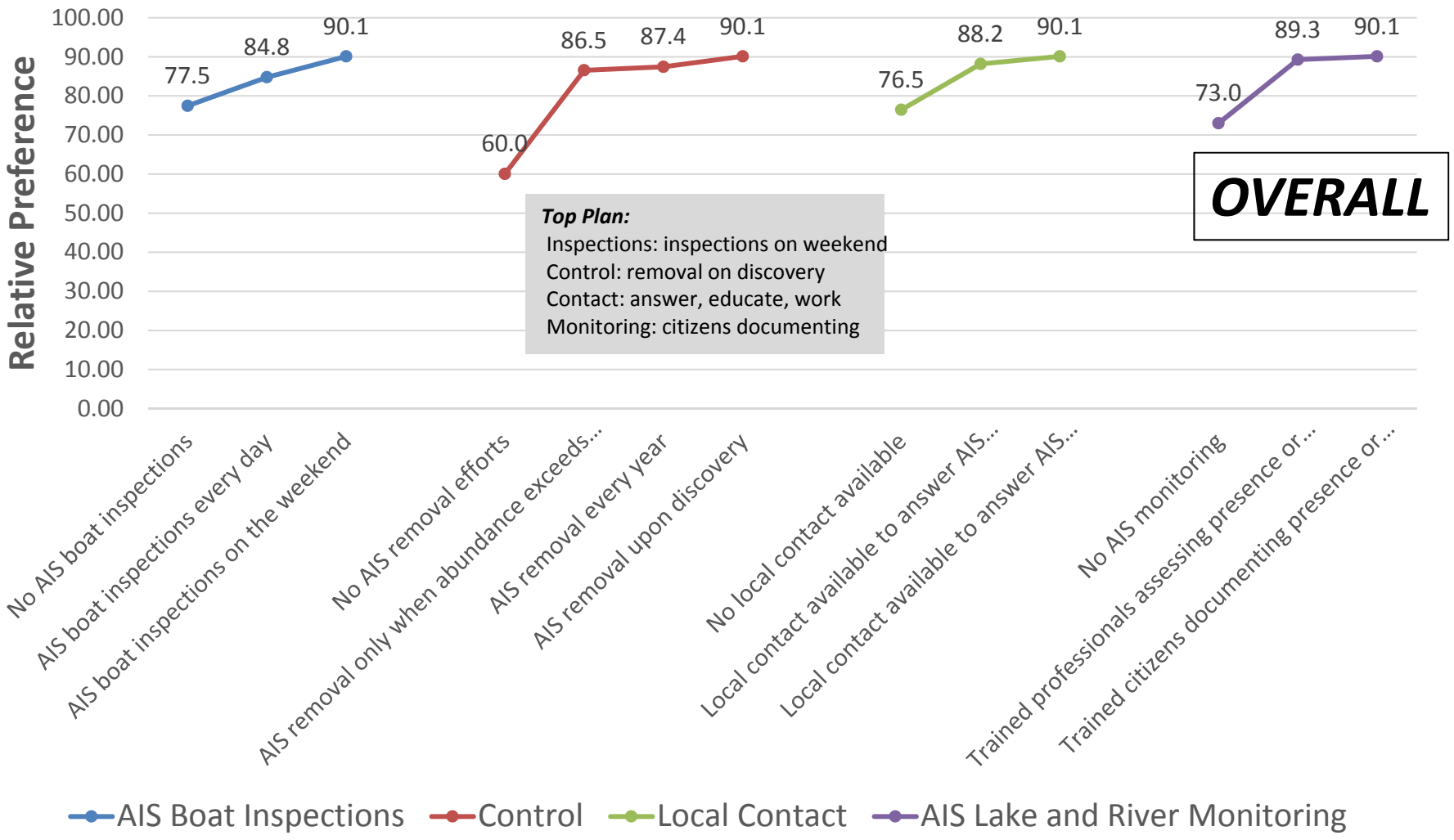
Rescaling Method:	Zero-Centered Diffs
	Total
No AIS boat inspections	-37.58
AIS boat inspections on the weekend	33.47
AIS boat inspections every day	4.11
No AIS removal efforts	-88.63
AIS removal upon discovery	43.47
AIS removal only when abundance exceeds predetermined levels	18.45
AIS removal every year	26.71
No local contact available	-36.13
Local contact available to answer AIS questions	10.76
Local contact available to answer AIS questions, educate citizens, and perform field work	25.36
No AIS monitoring	-55.40
Trained citizens documenting presence or absence of AIS	30.56
Trained professionals assessing presence or absence of AIS	24.84
None	-20.09

Average Importances

	Total
	%
AIS Boat Inspections	23.45
Control	36.42
Local Contact	17.21
AIS Lake and River Monitoring	22.93
Total	**100%**

Estimated Market Share

	Share	Std Err
	%	**%**
Top Choice Plan	90.12	0.96
None	9.88	0.96

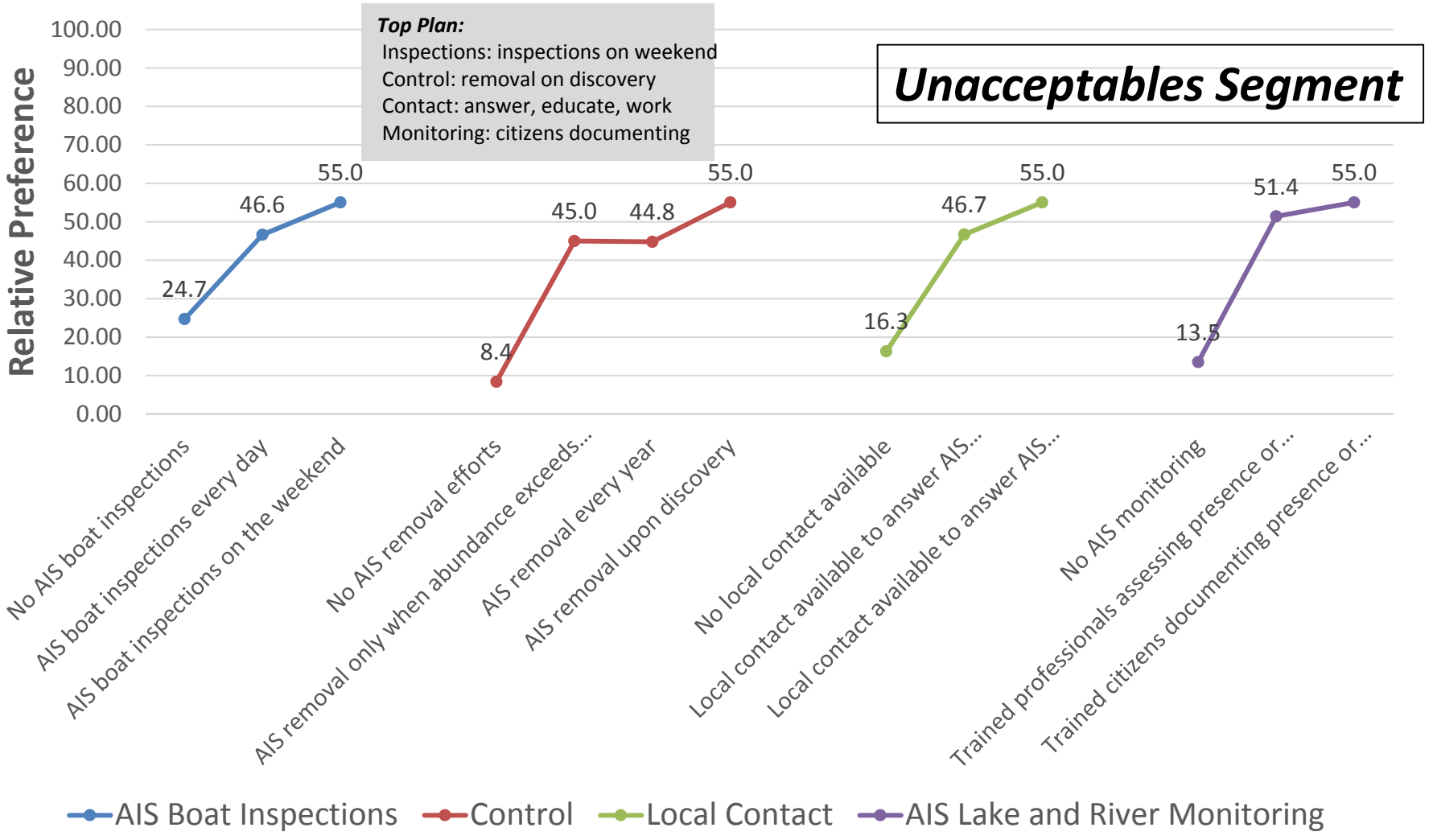

Relative Preference
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
77.5
84.8
90.1
60.0
86.5
87.4
90.1
76.5
88.2
90.1
73.0
89.3
90.1
Top Plan:
Inspections: inspections on weekend
Control: removal on discovery
Contact: answer, educate, work
Monitoring: citizens documenting
OVERALL
No AIS boat inspections
AIS boat inspections every day
AIS boat inspections on the weekend
No AIS removal efforts
AIS removal only when abundance exceeds...
AIS removal every year
AIS removal upon discovery
No local contact available
Local contact available to answer AIS...
Local contact available to answer AIS...
No AIS monitoring
Trained professionals assessing presence or...
Trained citizens documenting presence or...
AIS Boat Inspections
Control
Local Contact
AIS Lake and River Monitoring

Differences across stakeholders?

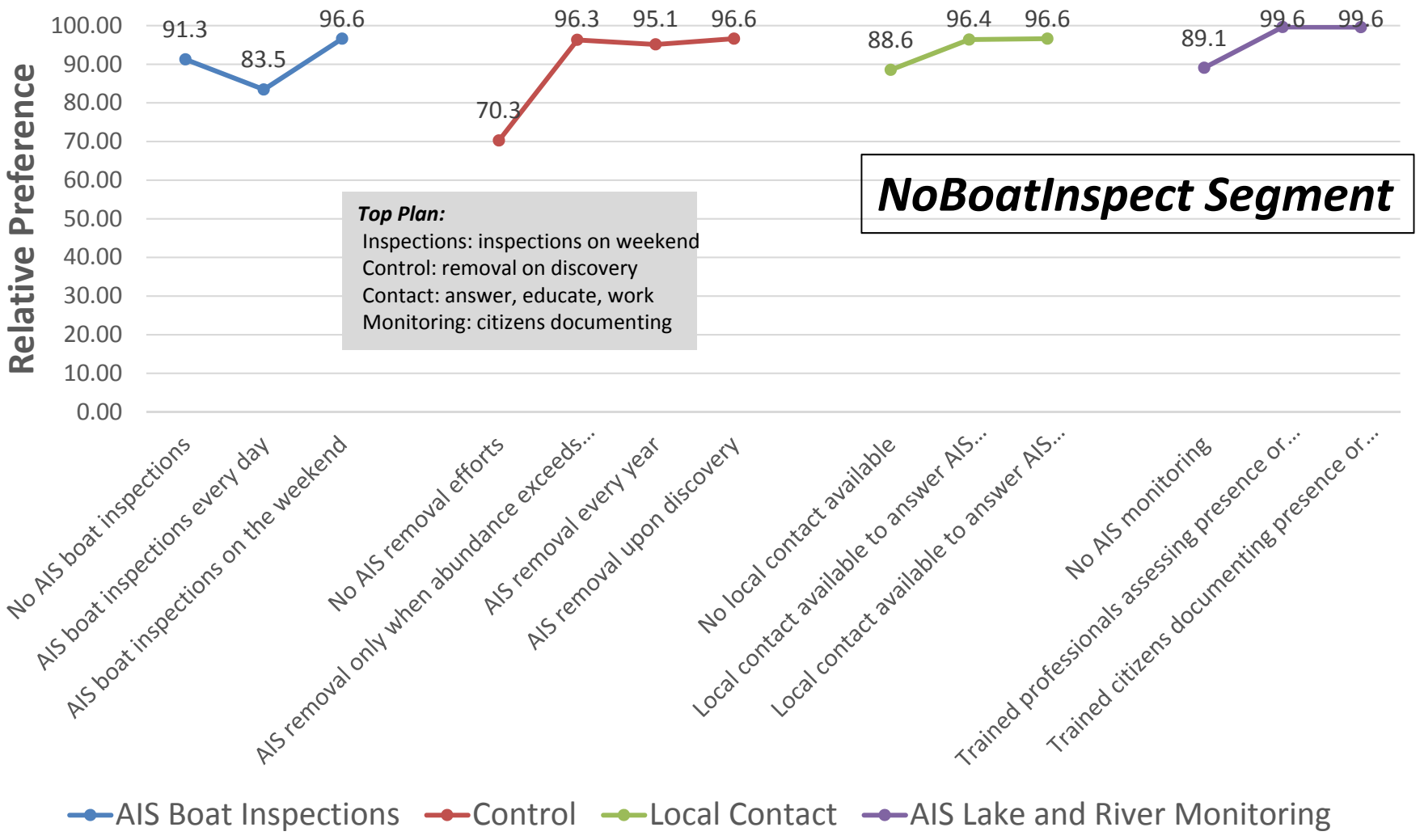
- DNR/UW
- Citizens/Volunteers
- Gov, County, Consultants

Latent Class Analysis

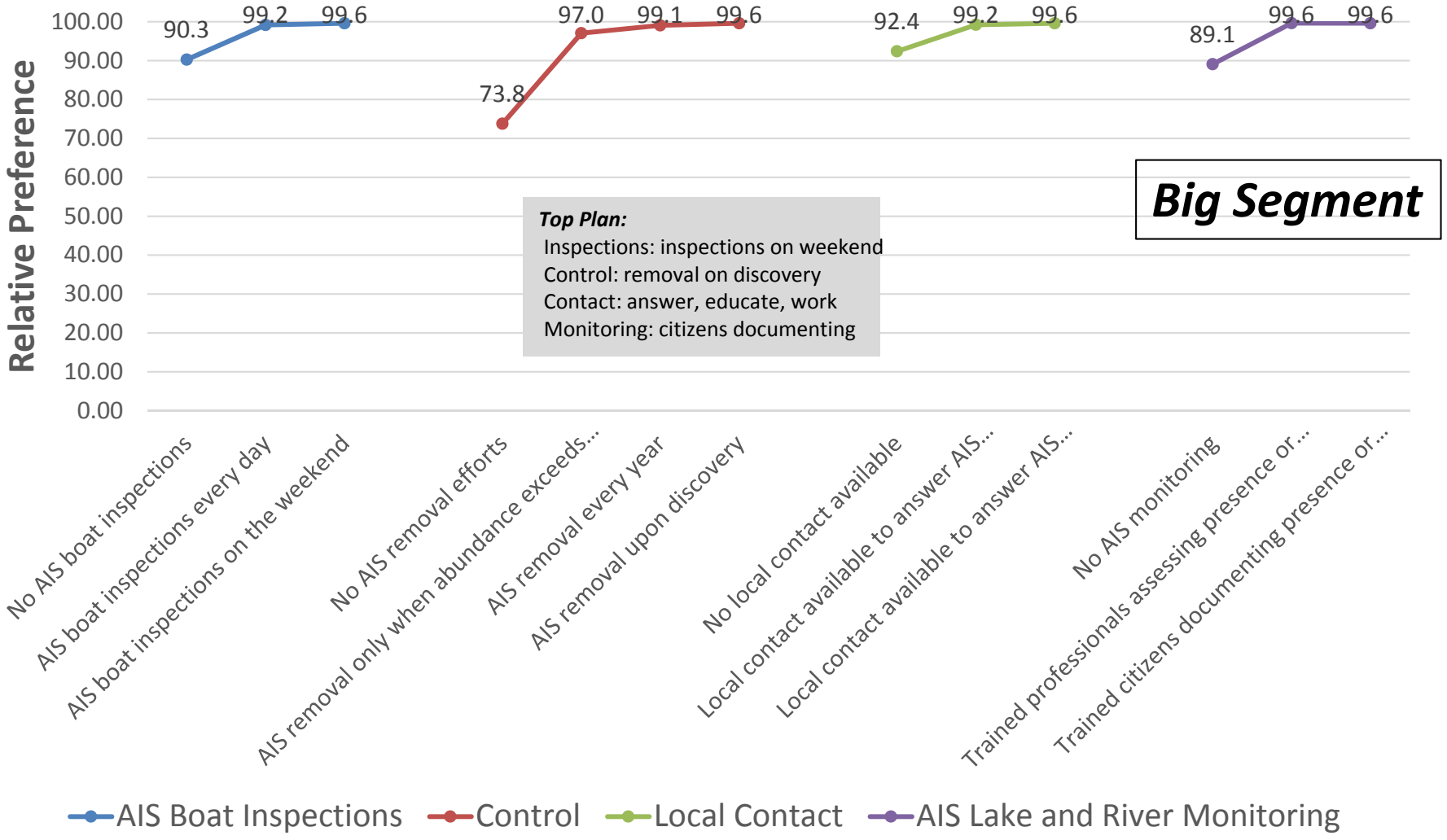
- Sample segmented out into three groups
  - All still prefer the same “top plan”
  - Differences in 2nd choice and approval



Not statistically different from whole sample, but tends to be younger and professional with more education



Not statistically different from whole sample, but tends to be older and less professional


Relative Preference
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
90.3
99.2
99.6
73.8
97.0
99.1
99.6
92.4
99.2
99.6
89.1
99.6
99.6
Top Plan:
Inspections: inspections on weekend
Control: removal on discovery
Contact: answer, educate, work
Monitoring: citizens documenting
Big Segment
No AIS boat inspections
AIS boat inspections every day
AIS boat inspections on the weekend
No AIS removal efforts
AIS removal only when abundance exceeds...
AIS removal every year
AIS removal upon discovery
No local contact available
Local contact available to answer AIS...
Local contact available to answer AIS...
No AIS monitoring
Trained professionals assessing presence or...
Trained citizens documenting presence or...
AIS Boat Inspections
Control
Local Contact
AIS Lake and River Monitoring

Take home thoughts

- AIS management is important – you have to do something
- 90% find the top plan acceptable
- Control explains the most variation
- CBCW and Monitoring essentially equal
- Local contact explains least variation
- Nuances, folks

Future Changes

- Revising the administrative code that governs the grant program
  - Increase allocation for early detection
  - Increase support for volunteer monitors
  - Incorporate CBCW into code
  - Revise AIS Coordinator program to have consistent coverage statewide


Questions?
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http://dnr.wi.gov/aid/surfacewater.html

- Barry Meeting notes
- Focus on sensitivity analysis & set that up; minor differences
- Average utility values best described as ranks rather than comparable values (CBCW wknd, no CBCW, everyday)
- Unacceptables – gave “less” options and they didn’t gravitate towards that; perhaps a more extreme/protective program is what they are looking for